Paint Scaler Deployment

Accelerated Site Technology Deployment
Integrated Decontamination and Decommissioning Project

Need

Crews must collect paint samples to be analyzed for hazardous chemicals prior to decontaminating and decommissioning a facility. Generally, paint is chipped from the sample area with hand tools like putty knives and chisels, a process that is slow and physically demanding.

Technology Description

The Bosch Rotary Hammer Drill makes sampling paint faster and easier. It is a hand-held power drill with chisel attachments to obtain samples automatically. The device, including chisel attachments, costs $800. The unit is powered by a 3 amp-hour, interchangeable battery containing enough energy to drill 155 holes in average concrete. Recharging the battery takes about 26 minutes. Purchasing additional batteries reduces delays caused by waiting for recharge. The INEEL uses the following bits for the drill: a wide chisel measuring 1.5 x 10 inches, a standard chisel measuring .75 x 10 inches, a point chisel, and quarter-inch, half-inch, three quarters-inch and one-inch wood chisels.

Benefits

- Battery-powered to increase flexibility and avoid the danger of power-cord or air-hose contamination
- Two to five times faster than hand sampling, saving approximately $50 per sample
- Penetrates metal and concrete surfaces
- Diminishes risk of injury associated with using hand tools, and reduces worker fatigue
- Efficient in removing thick, hard coatings
- Reduces the amount of substrate inadvertently collected with the sample.

Status

The INEEL deployed the Paint Scaler three times between December 1999 and April 2000, obtaining 5 samples from Buildings 641 and 654 of the Test Reactor Area. Crews also sampled at Building 603 of the Idaho Nuclear Technology and Engineering Center. They used the paint scaler to take two samples from the outside of a structure for PCB analysis. The paint scaler is expected to save $21,000 in labor costs over the next ten years.

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Modified: 4/12/01